

NOTES ON *BERTYA* PLANCHON (EUPHORBIACEAE)

G.P. Guymer

Queensland Herbarium, Meiers Road, Indooroopilly, Qld 4068

Summary

A new species of *Bertya*, *B. sharpeana*, is described and figured. *Bertya glabrescens* (C. White) Guymer based on *B. oleifolia* Planchon var. *glabrescens* C. White is a new combination. *Bertya brownii* S. Moore is deleted from the flora of Queensland and is an earlier name for the species known as *B. astrotricha* Blakely from the Sydney district. A key to the species of *Bertya* is provided.

The species of *Bertya* described in this paper was originally collected in 1981 and was considered at that time to be new to science. As a result of subsequent collections and examination of specimens at BRI, K and CGE sufficient data are now available to confirm its specific status. Although the genus is represented by other undescribed taxa in Australia and requires a complete revision, it is considered appropriate to publish this new species now because of its conservation significance.

***Bertya sharpeana* Guymer, sp. nov.** affinis *B. oleifoliae* Planchon sed foliis minoribus ovatis vel ovato-lanceolatis, glandibus foliorum longioribus (0.25–0.65 mm longis) et perianthiis accrescentibus differt. **Typus:** Queensland, MORETON DISTRICT: Mount Coolum, SE portion of summit area, 26°34'S, 153°05'E, 14 August 1982, G.P. Guymer 1771 & P.R. Sharpe (holo: BRI; iso: BRI,AD,CANB,K,MEL,PERTH).

Monoecious or dioecious bushy shrubs or small trees 0.5–4 m high; bark shallowly fissured, ± rugose, reddish-brown. Branchlets terete, stellate-pubescent (hairs on stipes 0.1–0.8 mm long, 0.7–1.3 mm diameter). Leaves spirally alternate, discolourous, exstipulate; lamina ovate to ovate-lanceolate, 4–19(–22) mm long, 2.5–8 mm wide, tuberculate above with persistent stalks of stellate hairs, white stellate-pubescent below (hairs on stipes 0.05–0.25 mm long, 0.3–0.7 mm diameter); apex obtuse to acute; base cuneate to slightly cordate; midvein slightly impressed above, secondary and tertiary veins obscure; basal glands 2, erect, stalked, capitate, 0.25–0.65 mm long; petioles flattened, slightly channelled above, stellate-pubescent, 1–2.5 mm long. Inflorescences axillary, monads, sessile; flowers sessile, apetalous; bracts 5, orbicular or ovate, acute to rounded, outer stellate-pubescent, inner glabrous or ciliate, 1–1.4 mm long, 0.8–1.3 mm wide. Male flowers: perianth white with a pink flush, turning reddish-pink, deeply 5-lobed, lobes obovate or ovate-oblong, glabrous, 2.5–3.5 mm long, 1.5–1.9 mm wide; androecium 2.8–3.3 mm long, glabrous; stamens spreading, 47–50; anthers 0.6–0.9 mm long. Female flowers: perianth pale green, 5-lobed to ca middle; lobes orbicular, recurved, glabrous except for ciliate margins, 1–1.3 mm long, 0.8–1.3 mm wide; ovary ovoid, stellate-pubescent, 3-locular, 1.4–1.7 mm long; style subsessile; stigmas 3, deeply 3-lobed, radiate, red or maroon, lobes 0.75–1.2 mm long, 0.1–0.2 mm wide; ovules 1 per loculus on apical placentas; capsule ellipsoid or ovoid, 1-seeded by abortion, sparsely pubescent, glabrescent, 4–5 mm long, 2.4–3 mm diameter. Seeds ovoid, smooth, carunculate, pale brown and blotched with dark brown, 3.1–4.5 mm long, 2–2.8 mm diameter; embryo straight, linear. **Fig. 1.**

Specimens examined: Queensland, MORETON DISTRICT: SE base of Mt Coolum, Aug 1982, Guymer 1768 & Sharpe (BRI,CANB,CBG,K,MEL,NSW,PERTH); Mt Coolum, ca 3 km S of Coolum Beach, Sept 1981, Sharpe 2992 & Batianoff (BRI); ditto, Nov 1981, Sharpe 3049 (BRI); Mt Coolum, SE portion of summit, Aug 1982, Guymer 1770 & Sharpe (BRI,CANB,K,MEL,NSW); ditto, Guymer 1771 & Sharpe (AD,BRI,CANB,K,MEL,PERTH); ditto, Guymer 1772 & Sharpe (BRI); ditto, Guymer 1773 & Sharpe (BRI); ditto, Nov 1987, Henderson H3109 (BRI); W facing slope of Mt Coolum, Jul 1982, Sharpe 3213 (BRI); N Slopes of Mt Coolum, Aug 1982, Guymer 1776 & Sharpe (BRI).

Distribution: This species is currently known only from Mt Coolum (26°34'S, 153°05'E), 3 km S of Coolum Beach, SE Queensland, at 60–200 m altitude.

Ecology: *B. sharpeana* has been recorded from a number of structural vegetation formations on Mt Coolum, viz. heath (southern portion of summit), open forest and woodland (northern and western slopes) and the margins of rainforest (south-eastern

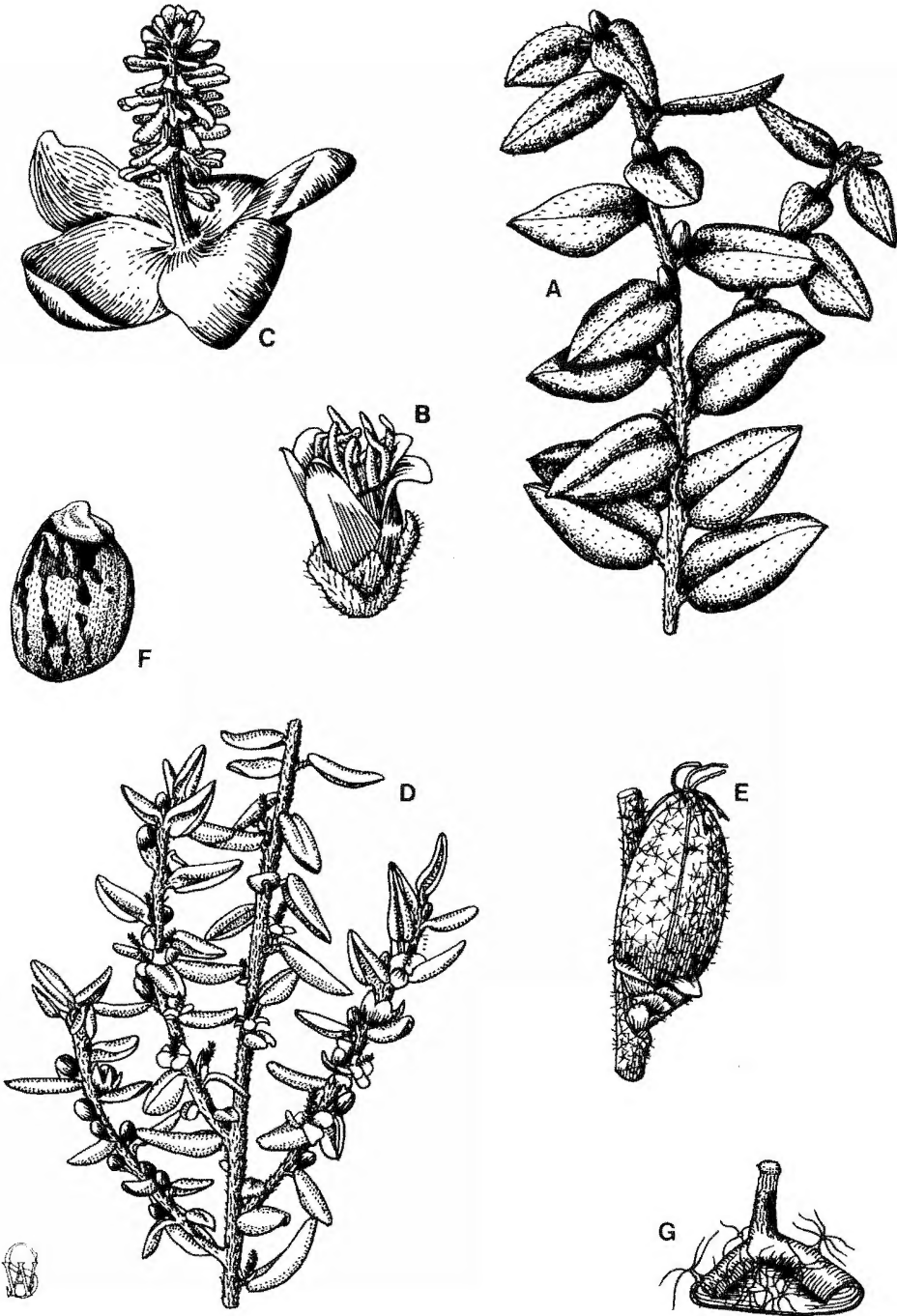


Fig. 1. *Bertya sharpeana*: A. flowering branchlet (female) $\times 1.5$. B. female flower $\times 8$. C. male flower $\times 8$. D. flowering branchlet (male) $\times 1.5$. E. fruit $\times 4$. F. seed $\times 6$. G. leaf gland $\times 25$. A,B,G Guymer 1768; C,D Guymer 1771; E,F Henderson H3109.

base of the mountain). The description of these vegetation formations has been documented by Batianoff, Sharpe & Neldner (1985) and the floristics for each formation have been compiled by Sharpe & Batianoff (1985).

Flowering period: July to September.

Fruiting period: October to November.

Affinities: The species is related to *B. oleifolia* but differs by its smaller, ovate to ovate-lanceolate leaves, its longer suprabasal leaf glands (0.25–0.65 mm long) and its perianth not enlarging in fruit.

Conservation status: *Bertya sharpeana* is an occasional plant on Mt Coolum and is so far known from a relatively small area (ca 1 square kilometre). The species is assessed as endangered (2E) using the criteria of Leigh *et al.* (1981).

Etymology: The species is named in honour of Mr Philip Ridley Sharpe who first brought it to my notice and who provided expert field assistance on my visit to Mt Coolum. This honour also acknowledges his contribution to the collections of the Queensland Herbarium (over 4500 collecting numbers) and to Queensland botany.

In the preparation of the key to the species of *Bertya* it became evident that *B. oleifolia* var. *glabrescens* C. White should be recognised at specific rank. The necessary new combination is made below.

***Bertya glabrescens* (C. White) Guymmer, comb. et stat. nov.**

Bertya oleifolia var. *glabrescens* C. White, Proc. Roy. Soc. Queensland 50: 86 (1939).

Type: Eidsvold, without date, *T.L. Bancroft* (holo: BRI; iso: K).

Affinities: This species differs from *B. oleifolia* by its pedunculate flowers, its glabrous ovary and adaxial leaf surface, and its sessile stellate hairs on the branchlets and leaves. *B. glabrescens* is most closely related to *B. pedicellata* but is distinguished from this species by its glabrous ovary, its shortly pedicellate or subsessile flowers and its narrower leaves.

Conservation status: *B. glabrescens* is known only from the type collection from Eidsvold and *Coveny* 6842 & *Hind* from 6.8 km N of Eidsvold. It is therefore conservation coded 1K using the criteria of Leigh *et al.* (1981) until accurate field data are obtained.

***Bertya brownii* S. Moore, J. Bot. 43: 147 (1905). Type:** without locality, without date, *R. Brown* [Bennett No. 3590] (holo: BM).

Bertya astrotricha Blakely, Contrib. New South Wales Nat. Herb. 1: 120 (1941).

Type: Connelly's Creek, 1.5 miles [2.4km] north-west of Mt Colah, June 1918, *W.F. Blakely* & *D.W.C. Shiress* (holo: NSW, photo BRI).

Moore described this species from a single Brown collection in BM and suggested that the specimen came from Queensland. I have examined the holotype and find that it is conspecific with the species known as *B. astrotricha* Blakely from the Sydney district of New South Wales.

Key to Species of *Bertya*

- | | |
|--|-----------------------------------|
| 1. Peduncles 8–25 mm long | 2 |
| Peduncles absent or to 4 mm long | 4 |
| 2. Stellate hairs mostly stipitate, stipes 0.1–0.5 mm long. Central subcoastal
NSW | B. brownii S. Moore |
| Stellate hairs mostly sessile, some on stipes to 0.2 mm long | 3 |
| 3. Leaves 1.3–4.2 cm long, 4–13 mm wide, lateral veins raised below,
sunken above. SE NSW | B. pomaderroides F. Muell. |
| Leaves 0.8–2 cm long, 3–5 mm wide, lateral veins inconspicuous. Central
subcoastal NSW | B. oblongifolia J. Mueller |

4. Stellate hairs on branchlets and leaves mostly stipitate (stipes 0.2–0.5 mm long) 5
 Stellate hairs on branchlets and leaves sessile or subsessile (stipes to 0.1 mm long) 9
5. Floral bracts 4; leaves ovate or orbicular, 0.4–1.3 cm long and wide.
 Kangaroo Is., SA **B. rotundifolia** F. Muell.
 Floral bracts 5–12; leaves ovate to lanceolate, 0.4–6 cm long 6
6. Basal leaf-glands stipitate, stipes 0.25–0.65 mm long; leaves ovate to ovate-lanceolate, 0.4–2.2 cm long; perianth not enlarging in fruit. Mt Coolum, SE Qld **B. sharpeana** Guymer
 Basal leaf-glands sessile or on stipes to 0.2 mm long; leaves lanceolate, 1–6 cm long 7
7. Floral bracts 8–12; styles 3- or 4-lobed; perianth enlarging in fruit to 6–10 mm long. N NSW, SE Qld **B. oleifolia** Planchon
 Floral bracts 3–7; perianth not enlarging in fruit 8
8. Styles 5–7-lobed; capsules 4–7 mm long. NE Qld **B. polystigma** Gruening
 Styles 3-lobed; capsule 8–10 mm long. N Tablelands NSW **B. ingramii** T. James
9. Leaves appressed to stem, 0.2–0.3 cm long, *ca* 1 mm wide. SW WA **B. cupressoidea** (Gruening) Airy Shaw
 Leaves not appressed to stem, 1–9 cm long 10
10. Leaves linear; margins revolute to midrib 11
 Leaves oblong, linear-lanceolate or lanceolate; margins flat or recurved but not revolute to midrib 20
11. Ovary glabrous or with a few hairs 12
 Ovary pubescent 18
12. Branchlets and young growth villous; perianth lobes fimbriate. Central NSW **B. gummifera** Planchon
 Branchlets and young growth sparsely pubescent, glabrescent or glabrous; perianth glabrous 13
13. Leaves 0.3–1 cm long; styles 2-lobed. SW WA **B. dimerostigma** F. Muell.
 Leaves 1–4.5 cm long; styles 3-lobed 14
14. Perianth enlarging in fruit 15
 Perianth not enlarging in fruit 16
15. Leaves 2.7–4.5 cm long; apices acute. SE Qld **B. pinifolia** Planchon
 Leaves 1.2–2.8 cm long; apices obtuse or rounded. S Qld, N NSW **B. glandulosa** Gruening
16. Hairs stipitate; adaxial leaf surface tuberculate with persistent hair stipes. Warrumbungles, NSW **B. neglecta** Dummer
 Hairs sessile; adaxial leaf surface glabrous 17
17. Peduncles 3–6 mm long; leaves 1.2–4.5 cm long. Central Qld **B. pedicellata** F. Muell.
 Peduncles 1–2.5 mm long; leaves 0.7–2 cm long. S Central NSW **B. cunninghamii** Planchon
18. Flowers sessile; leaves 1.5–3 cm long. Central NSW, Vic, SA **B. mitchellii** (Sonder) J. Mueller
 Flowers pedunculate; peduncles 1–4 mm long; leaves 0.6–2 cm long 19

19. Leaf apices acute; midrib mostly flush above. Tas
 **B. tasmanica** (Sonder) J. Mueller
 Leaf apices obtuse or rounded; midrib sunken above. E NSW, S Qld
 **B. rosmarinifolia** (Cunn.) Planchon
20. Leaves opposite, ovate to ovate-lanceolate, 10–20 mm wide. Central Qld
 **B. opponens** (F. Muell. ex Benth.) Guymer
 Leaves alternate, lanceolate to linear-lanceolate, 2–15 mm wide 21
21. Leaves 0.6–1.8 cm long 22
 Leaves 2–9 cm long 23
22. Leaves narrowly oblong, 0.5–1.5 cm long, 1–2 mm wide. Central W
 slopes NSW **B. oblonga** Blakely
 Leaves oblong, 1–1.8 cm long, 3–5 mm wide. NW slopes NSW **B. mollissima** Blakely
23. Ovary glabrous. Eidsvold, SE Qld **B. glabrescens** (C. White) Guymer
 Ovary pubescent 24
24. Leaf apices rounded; margins flat or slightly recurved; fruits not pedi-
 cellate. E Vic, SE NSW **B. findlayi** F. Muell.
 Leaf apices acute; margins revolute; pedicels elongating to 3–6 mm in
 fruit. Central Qld **B. pedicellata** F. Muell.

Excluded names

Bertya andrewsii W. Fitzg., J. Western Australia Nat. Hist. Soc. 2: 31 (1905) = **Ricinocarpus stylosus** Diels

Bertya quadrisepala F. Muell., Fragm. 10: 52 (1876) = **Ricinocarpus muricatus** J. Mueller

Acknowledgements

I am grateful to Philip Sharpe Esq. for bringing this new species to my attention, for his companionship on several visits to Mount Coolum and for providing the English translation of Gruening's German paper. I wish to thank the Directors and staff of K, PERTH and CGE for providing facilities for study and access to their collections, and Dr B. Briggs (NSW) who kindly sent me photographs of several types. Mr Will Smith provided the illustrations.

References

- BATIANOFF, G.N., SHARPE, P.R. & NELDNER, V.J. (1985). Flora and vegetation of Mt Coolum, Queensland. *Queensland Naturalist* 25: 28–56.
- LEIGH, J., BRIGGS, J. & HARTLEY, W. (1981). Rare or threatened Australian plants. Australian National Parks & Wildlife Service Special Publication No. 7. Canberra: Australian National Parks & Wildlife Service.
- SHARPE, P.R. & BATIANOFF, G.N. (1985). Appendix 1. Mt Coolum checklist of ferns, conifers and flowering plants. *Queensland Naturalist* 25: 57–74.